

RECEIVED

APR 25 1994

YOUNG & JATLOW

2300 N STREET, N. W.
SUITE 600
WASHINGTON, D. C. 20037

DAVID C. JATLOW
FRANCIS L. YOUNG*

*ADMITTED IN TEXAS

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

TELEPHONE
(202) 683-8080
TELEFAX
(202) 331-8001

April 25, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

In re: ET Docket No. 93-62
Reply Comments
The Ericsson Corporation

Dear Mr. Caton:

Transmitted herewith, on behalf of The Ericsson Corporation, is an original and five copies of its reply comments for filing in the above-referenced proceeding.

Should there be any questions with regard to this matter, kindly communicate directly with the undersigned.

Very truly yours,



David C. Jatlow
Counsel for The Ericsson Corporation

No. of Copies rec'd 0+5
List ABCDE

RECEIVED

APR 25 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Guidelines for Evaluating
the Environmental Effects
of Radiofrequency Radiation

)
)
)
) ET Docket No. 93-62
)
)
)

To: The Commission

Reply Comments of The Ericsson Corporation

The Ericsson Corporation, on behalf of itself and affiliated and subsidiary companies (hereinafter collectively referred to as "Ericsson"), by its attorney, submits its reply comments in ET Docket No. 93-62.¹

Detailed analysis of the comments filed in this proceeding indicates there is general agreement that FCC adoption of new guidelines for evaluating the environmental effects of RF radiation is an appropriate and proper action reflecting IEEE's review and updating of the 1982 Standard.² Furthermore, with

¹ In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, ET Docket No. 93-62, 8 FCC Rcd 2849 (released April 8, 1993) (hereinafter referred to as the "NPRM").

² ANSI C95.1-1982, American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz, American National Standards Institute, New York, NY (hereinafter referred to as the "1982 Standard").

very few exceptions most parties filing comments in this proceeding support Commission adoption of the proposed ANSI/IEEE Standard for RF exposure³, albeit with certain modifications. In its reply pleading, Ericsson will address selected issues raised in the initial round of comments in the NPRM.

I. Responsibility for RF Radiation Is An Industry Issue

A few parties filing comments in the initial round assert that the issue of compliance with any new RF exposure standard is a manufacturers' issue and imply that manufacturers should be solely responsible for compliance therewith. Ericsson does not disagree that manufacturers have a significant responsibility for ensuring that products sold comply with standards adopted by the Commission. Ericsson does disagree with the suggestion that the issue under discussion is solely a manufacturers' problem.

In Ericsson's view manufacturers should be responsible for building products which comply with standards adopted by the Commission. Assuming a product complies with appropriate standards, however, at the point at which the manufacturer sells and thus loses control over the device, the manufacturer should no longer be responsible for compliance.

For example, with respect to radio base stations it is

³ ANSI/IEEE C95.1-1992, *Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*, approved September 26, 1991 by IEEE, published April 27, 1992 by IEEE (hereinafter referred to as the "ANSI/IEEE Standard" or "C95.1-1992").

conceivable that subsequent to the time of purchase and installation, modifications can be made to such equipment, including but not limited to, changes to the antenna system or increases in power. Similarly, radio base stations which have been approved for use in a "controlled environment" can be moved to an "uncontrolled environment". Also, end users may tamper with mobile and portable devices. Impermissible changes to equipment or the relocation of equipment such as those described above can result in a situation in which devices which met appropriate RF radiation standards when manufactured and sold, have been altered to such an extent that they do not meet legally adopted standards as used. In such circumstances it is not equitable to hold a manufacturer solely responsible for compliance with RF radiation standards.

Ericsson does not believe those who asserted the position that compliance with RF radiation standards is solely a manufacturers' responsibility intended their arguments to suggest that manufacturers should always be held liable for non-compliant devices. Rather, Ericsson believes such statements were intended to advance the premise that manufacturers of RF devices are *initially responsible* for assuring that the devices comply with legally applicable standards. Thus, Ericsson urges the Commission to recognize that manufacturers can not guaranty RF devices meet appropriate standards after devices hve been sold to a distributor, service provider or end user. To the extent rules

on liability for failure to comply with appropriately adopted standards are promulgated, responsibility therefor should reside with the party responsible for non-compliance.

II. Grandfathering Of Existing Devices

A number of parties filed comments suggesting that equipment in the marketplace which meets the existing 1982 Standard but which does not meet the new ANSI/IEEE Standard be required to be brought into compliance within varying periods of time. Ericsson opposes such a view for a number of reasons.

First, while Ericsson generally supports the adoption of the new ANSI/IEEE Standard, it does not believe evidence has been presented showing that RF devices which comply with the existing 1982 Standard pose a threat to health. Second, from an administrative standpoint a recall requirement would be burdensome and impractical. Today, there are literally millions of devices in use which meet all appropriate RF radiation standards. For the Commission, service providers and/or end users to be required to locate such devices, return them for modification (if technically possible) and undertake the costly and time consuming procedures to determine compliance with new standards, would be an excessive burden on all parties--including the Commission's already overworked staff.

Rather than undertake such actions, especially since there has been no demonstration that harm will result from the use of devices which meet the existing 1982 Standard, Ericsson repeats

its initial suggestion that the FCC should grandfather any device which has already been type accepted. Based on the normal timeframe needed to design new equipment and have it ready for deployment in the market (taking into consideration regulatory requirements for obtaining equipment authorizations) Ericsson suggests that new devices be required to meet the new ANSI/IEEE Standard two years after the FCC adopts (1) a definitive SAR measurement standard or (2) an equivalent standardized numerical analysis technique⁴, whichever occurs first.

III. Need for Standardized Testing Procedures

Though most parties filing comments in this proceeding agree that adoption of the ANSI/IEEE Standard would serve the public interest, most parties also agree that the ANSI/IEEE Standard lacks specificity with regard to the manner in which one conducts measurements to assure RF devices meet appropriate standards. In this regard, TIA has offered to serve as a "focal point" to develop necessary measurement standards for the manufacturing community, utilizing its normal accredited standard setting process. Based on the overwhelming consensus that more work needs to be done to develop measurement standards which can be relied upon so manufacturers can assure devices meet appropriate standards, Ericsson strongly supports the view that the

⁴ See also, *Comments of The Ericsson Corporation in Response to the FCC's Notice of Proposed Rule Making in ET Docket No. 93-62*, pp 8-9.

Commission should designate TIA as the organization to develop such standards. Once developed, the standards should be incorporated into the Commission's rules.

IV. Controlled Environments/Uncontrolled Environments

The ANSI/IEEE Standard makes a distinction between devices which are located in controlled and uncontrolled environments. The standards applicable to devices in each of these environments are different. Ericsson agrees that the distinctions are valid and should be adopted. However, Ericsson notes that the definitions used to classify the environments in which devices are located should be modified to eliminate as much "discretion" as possible.

Under the ANSI/IEEE Standard an uncontrolled environment is a location "...where there is exposure of individual's who have no knowledge or control of their exposure" and a controlled environment is a location "...where there is exposure that may be incurred by persons who are aware of the potential for exposure." To ensure that devices located in uncontrolled or controlled environments meet the appropriate standards for each, it is important to adopt a definition which provides adequate specific guidance on the appropriate classification. The ANSI/IEEE Standard does not do that.

V. Low Power Exclusion/2.5 CM Rules

Numerous parties filing comments in this proceeding recognize it is necessary for the Commission to take special action with respect to the growing number of portable devices which will be used. This is especially important since experts are predicting there will be millions of portable PCS devices deployed in the U.S. over the next 10 years. Because the radiating structure of today's hand held portable radios as well as future PCS devices are likely to be "used" within 2.5 cm of the body, the FCC must ensure (1) that there is a low power exclusion for portable, hand held devices exclusive of the 2.5 cm rule and (2) that it obtain a clarification of the 2.5 cm rule.⁵

To prevent a chilling effect on the continued development of a robust hand held radio market which is so important today and also to avoid delay in the deployment of PCS at the earliest possible time, Ericsson submits that the Commission should, among other things, grant an exclusion for all low power hand held devices that demonstrate operation at power levels below those set forth in the ANSI/IEEE Standard including levels as extrapolated to 2200 MHz for frequencies above 1500 MHz. In this regard, Ericsson agrees with the comments of E.F. Johnson⁶ which

⁵ As noted in its original comments in this NPRM, there is virtually no guidance in C95.1-1992 on how a manufacturer is to conduct measurements to determine compliance with the ANSI/IEEE Standard.

⁶ See, *Comments of The E.F. Johnson Company*, p. 6.

recommended the FCC adopt regulations for devices with radiating elements within 2.5 cm of the body, based on radiated power.

As mentioned in its earlier comments in this proceeding, Ericsson submitted an inquiry to the Secretary of the IEEE Standards Board requesting an interpretation of the term "maintained" as used in C95.1-1992 at 4.2.1.1 and 4.2.2.1. Though Ericsson has not yet received a formal response from the IEEE on this matter, conversations about this issue between TIA and the industry's expert scientists have taken place. The general consensus of industry experts is that the reference to devices being "maintained within 2.5 cm of the body" was a reference not to the use of hand held, portable radios but rather was a reference to devices actually mounted on the body and used in a manner generating exposure to the large planar surface of the torso.

Furthermore, language in C95.1-1992 suggests that the term "maintained" relates to a specific type of device and has a meaning different than the term "used". At page 34 of C95.1-1992, which makes reference to the 2.5 cm rule, it is stated:


[1]laboratory studies have shown that it is unlikely for devices such as low-power hand held radios (where the radiating structure is not maintained 2.5 cm or less from the body) to expose the user in excess of the exclusion criterion for the controlled environment (4.2.1), or other persons in the immediate vicinity of the user in excess of the criterion for the uncontrolled environment (4.2.2), if the radiated power is 7 W or less.....

Because the radiating element of a "hand held radio" may be "used" within 2.5 cm of the body and because the foregoing language discusses hand held radios which are "maintained" further than 2.5 cm from the body, the conclusion that must be drawn is that interpretation and clarification of the terms "maintained", "body" and "radiating structure" continue to be needed.

In its initial comments submitted in this proceeding Ericsson addressed the difficulties involved in conducting measurements to determine compliance with SAR levels based on the lack of specificity in C95.1-1992. Based on that problem, the fact that the issue of the interpretation of the word "maintained" has still not been resolved, and the importance of deploying hand held radio devices in our society, Ericsson submits the Commission should refrain from adopting rules in this proceeding until it receives appropriate information from the experts on the above issues. Instead, taking into consideration the views of recognized experts, the Commission should adopt a Further Notice of Proposed Rule Making designed to investigate

whether the 2.5 cm rule has continuing validity for wireless telecommunications markets.

Respectfully submitted,
The Ericsson Corporation



David C. Jatlow
Its Attorney

Young & Jatlow
Suite 600
2300 N Street, N.W.
Washington, D.C. 20037
(202) 663-9080

April 25, 1994

CERTIFICATE OF SERVICE

I, Lisa M. Volpe, hereby certify that on this 25th day of April 1994, copies of the foregoing Reply Comments of The Ericsson Corporation were sent by postage-paid first class mail to the following:

Ellen Shaw Agress
National Broadcasting Company, Inc.
30 Rockefeller Place
New York, NY 10112

Michael F. Altschul
Cellular Telecommunications Industry
Association
1133 21st Street, N.W.,
Washington, DC 20036

Sam Amtar
Capital Cities/ABC, Inc.
77 West 66th Street
New York, NY 10019

Stephen D. Baruch
Leventhal, Senter & Lerman
2000 K Street, N.W., Suite 600
Washington, DC 20006

Henry L. Baumann
National Association of Broadcasters
1771 N Street, N.W.
Washington, DC 20036

Barbara Burns
Greater Media, Inc.
Two Kennedy Blvd.
East Brunswick, NJ 08816

Russell H. Fox
Gardner, Carton & Douglas
1301 K Street, N.W., Suite 900
East Tower
Washington, DC 20005

John F. Garziglia
Pepper & Corazzini
1776 K Street, N.W.
Washington, DC 20006

Ernest A. Gleit
AT&T
Room 3244J1
295 North Maple Avenue
Basking Ridge, NJ 07920

Betsy S. Granger
140 New Montgomery Street
Room 1525
San Francisco, CA 94105

Stephen A. Hildebrandt
1025 Connecticut Avenue, N.W.
Suite 506
Washington, DC 20036

Howard F. Jaeckel
CBS, Inc.
51 West 52nd Street
New York, NY 10019

J. Barclay Jones
American Personal Communications
1025 Connecticut Avenue, N.W.
Washington, DC 20036

Jay C. Keithley
1850 M Street, N.W., Suite 1100
Washington, DC 20036

Linda Kent
U.S. Telephone Association
1401 H Street, N.W., Suite 600
Washington, DC 20005

Ronald J. Krotoszynski, Jr.
Covington & Burling
1201 Pennsylvania Ave., N.W.
P.O. Box 7566
Washington, DC 20044

Lon C. Levin
AMSC Subsidiary Corporation
10802 Park Ridge Blvd.
Reston, VA 22091

Dinah D. McElfresh
Electromagnetic Energy Policy Alliance
1255 23rd Street, N.W., Suite 850
Washington, DC 20037

Barbara N. McLennan
Consumer electronics Group Electronic
Industry Association
2001 Pennsylvania Avenue, N.W.
Washington, DC 20006

John J. McVeigh
Fisher, Wayland, Cooper and Leader
1255 23rd Street, N.W.
Washington, DC 20037-1170

Theodore A. Miles
National Public Radio
2025 M Street, N.W.
Washington, DC 20036

Mark L. Mollon
Parklane Towers
One Parklane Blvd.
Suite 911
Dearborn, MI 48126-2490

Gail L. Polivy
1850 M Street, N.W.
Suite 1200
Washington, DC 20036

John B. Richards
Keller and Heckman
1001 G Street, N.W.
Suite 500 West
Washington, DC 20001

Pamela Riley
PacTel Corporation
2999 Oak Road
Walnut Creek, CA 94596

Marnie K. Sarver
Reed Smith Shaw & McClay
1200 18th Street, N.W.
Washington, DC 20036

Eric Schimmel
Telecommunications Industry
Association
2001 Pennsylvania Ave., N.W.
Suite 800
Washington, DC 20036

R. Michael Senkowski
Wiley, Rein & Fielding
1776 K Street, N.W.
Washington, DC 20006

Charles J. Sennet
Tribune Broadcasting Company
435 North Michigan Avenue
Chicago, IL 60611

Thomas A. Stroup
Telocator, PCIA
1019 19th Street, N.W.
Washington, DC 20036

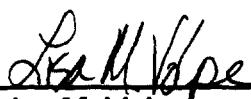
Donald L. Walker
Motorola, Government Relations Office
1350 I Street, N.W., Suite 400
Washington, DC 20005

Richard E. Wiley
Wiley, Rein & Fielding
1776 K Street, N.W.
Washington, DC 20006

Barry D. Wood
Jones, Waldo, Holbrook &
McDounough, P.C.
2300 M Street, N.W.
Washington, DC 20037

James L. Wurtz
1275 Pennsylvania Avenue, N.W.
Washington, DC 20004

Louis Robert du Treil, Jr.
Du Treil, Lundin & Rackley, Inc.
240 N. Washington Blvd.
Suite 700
Sarasota, FL 34238



Lisa M. Volpe